JOINT MESSAGEFORM

SECURITY CLASSIFICATION [redacted]

SPACE BELOW RESERVED FOR COMMUNICATION CENTER [redacted]

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PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	BOOK	MULTI	SINGLE			
INFO						

FROM:
6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

TO:
SPACE SYSTEMS DIV LOS A CALIF
VWZD - 9-10-278

SUBJECT: 8-HOUR LAUNCH FLASH REPORT

I. A VEHICLE CONSISTING OF THOR BOOSTER NO. 352 AND AGENA B ORBITAL STAGE NO. 1134 WAS LAUNCHED ON THE FIRST ATTEMPT FROM VAFB COMPLEX 75-3, PAD 4, AT 1135:38.77 PDT ON 9 OCTOBER 1962. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE AGENA SATELLITE WITH PAYLOAD IN A NEAR-POLAR ORBIT, WAS ACCOMPLISHED; HOWEVER, THE TRAJECTORY WAS SIGNIFICANTLY ABOVE NOMINAL DUE TO LOSS OF THE BTL GROUND GUIDANCE AND COMMAND SYSTEM DURING THOR BOOST. THIS RESULTED IN THE ABSENCE OF GROUND COMPUTED STEERING COMMANDS, EVENT COMMANDS, AND AGENA DISCRETE COMMANDS. AIRBORNE BACKUP SYSTEMS WERE EFFECTIVE IN SIGNALLING CRITICAL EVENTS

SPECIAL INSTRUCTIONS

By Authority of [redacted] ER 205-2
APR 1966

CLASSIFICATION CHANGED TO [redacted]

DOWNGRADED AT 3 YEAR INTERVALS
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WRITER

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22 OCT Nac 6

DD FORM 1 MAY 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

AND THUS PERMITTED ORBITAL ATTAINMENT DESPITE THE LOSS OF RADIO GUIDANCE. THE VTS RADAR PLOTBOARD INDICATED THE FOLLOWING APPROXIMATE INJECTION CONDITIONS: ALTITUDE, 210 STATUTE MILES; PAD REFERENCED VELOCITY, 25,200 fps; ELEVATION FLIGHT PATH ANGLE, APPROXIMATELY PLUS ONE DEG; AZIMUTH FLIGHT PATH ANGLE, APPROXIMATELY 173 DEG. THE ORBITAL PERIOD ATTAINED APPEARS TO BE ABOVE NOMINAL, BASED ON FIRST PASS ACQUISITION.

PRELIMINARY VALUES OF SIGNIFICANT LAUNCH EVENTS ARE:

LIFTOFF (1135:38.77 PDT)	ZERO
STEERING INITIATED	NONE
MECO (PROPELLANT DEPLETION)	147.18 SEC
VECO	156.12 SEC
ENABLE D1 AND D2 (S2)	NONE
D1 ON	NONE
D1 OFF	NONE
D2 ON	NONE
D2 OFF	NONE
SEPARATION COMMAND (TIMER BACK-UP)	163.7 SEC
SEPARATION COMPLETE	166.1 SEC
ULLAGE ROCKET IGNITION	194.7 SEC

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FROM:

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AGENA ENGINE IGNITION 296.7 SEC

AGENA THRUST ATTAINMENT (95 PER-
CENT Ps) 297.9 SEC

AGENA BURNOUT (70 PER CENT Ps) 452.1 SEC
(PROPELLANT DEPLETION)

VIS VELOCITY RADAR FADE 540 SEC

VIS ACQUISITION BEACON FADE 544 SEC

VIS TELEMETRY DATA FADE (LINK 1) 549 SEC

IL ALL BOOSTER SUBSYSTEMS PERFORMED SATISFACTORILY EXCEPT THE GROUND GUIDANCE SYSTEM, WHICH LOST THE MISR (MISSILE BOOSTER GUIDANCE MOVEMENT) BEACON SIGNAL 70 SEC AFTER LIFT-OFF. TELEMETRY DATA INDICATE THAT THE MISR MAGNETRON TRANSMITTER WAS FUNCTIONING NORMALLY AT THE TIME AND SUBSEQUENT TO THE TIME THAT THE GROUND-RECEIVED SIGNAL FADED. THE SIGNAL FADE WAS NOT ABRUPT; THAT IS, APPROXIMATELY ONE SEC ELAPSED BETWEEN A GOOD SIGNAL AND NO SIGNAL. DESPITE CONTINUED INTERROGATION AND BEACON RESPONSE, THE GROUND RECEIVER DID NOT RE-ACQUIRE THE BEACON SIGNAL. POST-LAUNCH TEST OF THE GROUND EQUIPMENT INDICATED THAT IT WAS FUNCTIONING CORRECTLY. THE EXACT CAUSE OF SIGNAL LOSS WAS NOT BEING DETERMINED. DUE TO THE LOSS OF TRACK NO STEERING ORDERS NOR DISCRETE COMMANDS WERE TRANSMITTED.

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III. ALL AGENA VEHCLE SUBSYSTEMS PERFORMED SATISFACTORILY DURING LAUNCH TO PROVIDE ADEQUATE TRAJECTORY CONDITIONS AT AGENA ENGINE SHUTDOWN; HOWEVER, THE FOLLOWING DISCREPANCIES WERE NOTED:

A. DUE TO THE LOSS OF GROUND GUIDANCE DURING THE BOOST PHASE, TIME-TO-FIRE, VELOCITY-TO-BE GAINED ADJUSTMENTS, AND SEPARATION COMMAND WERE NOT PROVIDED. CONSEQUENTLY, SEPARATION AND IGNITION WERE SIGNALLED BY THE D-TIMER AFTER PREDETERMINED INTERVALS FROM LIFTOFF. AGENA ENGINE SHUTDOWN OCCURRED DUE TO PROPELLANT DEPLETION SINCE SUFFICIENT IMPULSE WAS NOT AVAILABLE TO SATISFY THE UNCORRECTED VALUE OF VELOCITY-TO-BE GAINED. THE INTEGRATOR DATA INDICATE THAT SHUTDOWN OCCURRED AT A VELOCITY GAIN APPROXIMATELY 170 fps LESS THAN THAT REQUIRED TO SATISFY THE UNCORRECTED INTEGRATOR SETTING OF 16,756 fps.

B. HEAVY RADAR INTERFERENCE IN THE BEACON SIGNAL CHANNEL RAISED THE ACTIVITY LEVEL TO PEAKS IN EXCESS OF 1200 pps; HOWEVER, NEGLIGIBLE COUNTDOWN IS REFLECTED IN THE BEACON POWER CHANNEL, WHICH PROVIDED THE VERLORT RADAR WITH A GOOD TRACKING SIGNAL.

AT THE TIME OF SIGNAL FADE AT VTS, ALL VEHICLE SUBSYSTEMS WERE FUNCTIONING NORMALLY AND THE ORBITAL

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TIMER WAS SET AT 5439 SEC (STEP 19), IN THE RESET-ON POSITION, IN THE INCREASE MODE, AND ALTERNATE RE-ENTRY DISARM STATE.

IV. THE COUNTDOWN WAS INITIATED AT 0330 PDT AND PROGRESSED TO LIFTOFF WITH 2 HOLDS TOTALING 35 MIN.

HOLD NO. 1 WAS IMPOSED AT 1000 FOR 15 MIN TO ADJUST THE COUNTDOWN TO A CHANGE IN THE LAUNCH WINDOW FROM 1100 TO 1115.

HOLD NO. 2. WAS IMPOSED AT 1100 FOR 20 MIN DUE TO TRAINS IN THE HAZARD AREA.

DURING THE COUNTDOWN, THE FOLLOWING TECHNICAL DIFFICULTIES WERE ENCOUNTERED:

1. THE LANDLINE INDICATIONS OF AGENA LIFEBOAT SPHERE TEMPERATURE AND FUEL TANK TEMPERATURE WERE INOPERATIVE THROUGHOUT THE COUNTDOWN.

2. IN TASK 10, AFTER PREPRESSURIZATION, IT WAS NECESSARY TO REVERIFY LIFEBOAT CONTROL GAS SPHERE PRESSURIZATION BY REFERRING TO THE TELEMETRY READOUT AND BY OFF LOADING OXY. OF CONTROL GAS FROM 2000 psi TO 1400 psi AND THEN RELOADING.

3. IN PHASE V, THE TELEMETRY INDICATION OF THOR PITCH ATTITUDE SIGNAL WAS FOUND TO BE OUT OF CALIBRATION.

PAD DAMAGE WAS NORMAL AND THE NORMAL TURNAROUND

[redacted]

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